

Amendments to the Claims

The following Listing of Claims will replace all prior versions and listings of claims in the application.

Listing of Claims

Please amend claims 1-4, 10-14 and 20-24 as follows:

1. (Currently Amended) A method for virtualizing access to windows, the method comprising:
receiving a request relating to a window from a process executing within the context of a user isolation scope account, the request including a virtual window name, and wherein the user isolation scope is provided by an isolation environment comprising a user isolation layer and an application isolation layer;

determining a literal name for the window using a scope-specific identifier associated with at least one of a particular user isolation scope and an application isolation scope;

issuing to the operating system a request including the determined literal window name; and

associating a window handle with the determined virtual window name.

2. (Currently Amended) The method of claim 1 wherein receiving a request further comprises intercepting a request relating to a window from a process executing in the context of a user isolation scope account, the request including a virtual window name.

3. (Currently Amended) The method of claim 1 wherein receiving a request further comprises receiving a request to find a window from a process executing in the context of a user isolation scope account, the request including a virtual window name.

4. (Currently Amended) The method of claim 1 wherein receiving a request further comprises receiving a request to create a window from a process executing in the context of a user isolation scope account, the request including a virtual window name.

5. (Previously Presented) The method of claim 1 wherein determining a literal name further comprises:

determining a rule associated with the virtual window name included in the request; and
determining a literal name for the window responsive to the determined rule.

6. (Previously Presented) The method of claim 1 wherein determining a literal name further comprises determining a literal window name using a scope-specific identifier associated with an application isolation scope with which the process making the request is associated.

7. (Previously Presented) The method of claim 1 wherein associating a window handle further comprises storing the virtual window name in a mapping table associated with a window handle.

8. (Previously Presented) The method of claim 1 further comprising receiving from the operating system a response to the issued request.

9. (Previously Presented) The method of claim 8 further comprising replacing the literal window name in the response with a virtual window name.

10. (Currently Amended) A method for virtualizing access to windows, the method comprising:
receiving a request to identify one of a virtual window name and a virtual window class identifier, the request received from a process executing within the context of a user isolation scope account and including a window handle, and wherein the user isolation scope is provided by an isolation environment comprising a user isolation layer and an application isolation layer;
determining that the window handle is associated with the requested one of the virtual window name and the virtual window class identifier; and
returning to the requesting process the determined window information.

11. (Currently Amended) The method of claim 10 wherein determining that the window handle is associated with the requested window name further comprises determining that no whether an association between the window handle and the requested one of the virtual window name and

the virtual window class identifier exists.

12. (Currently Amended) The method of claim 11 further comprising determining the window handle associated with the requested one of the virtual window name and the virtual window class identifier from a mapping table, responsive to determining an association exists in the mapping table.

13. (Currently Amended) The method of claim [[+2]] 11 further comprising returning to the requesting process a response received from the an operating system, responsive to determining no association exists in the mapping table.

14. (Currently Amended) An apparatus for virtualizing access to windows comprising:
a hooking mechanism receiving a request relating to a window from a process executing within the context of a user isolation scope account, the request including one of a virtual window name and a virtual window class identifier, and wherein the user isolation scope is provided by an isolation environment comprising a user isolation layer and an application isolation layer;

a window name virtualization engine forming one of a literal name for the window and a literal window class identifier using the one of the virtual window name and the virtual window class identifier received in the request, and a scope-specific identifier associated with a particular isolation scope; and

an operating system interface issuing a request relating to a window, the request including the one of the formed literal name and the formed literal window class identifier for the window.

15. (Original) The apparatus of claim 14 wherein the hooking mechanism intercepts a request selected from a group consisting of finding a window, creating a window, enumerating a window, destroying a window, setting a window name, retrieving a window name, retrieving a window class identifier associated with the window, registering a window class, retrieving information about a window class and unregistering a window class.

16. (Original) The apparatus of claim 14 further comprising a mapping table storing an

association between a window handle and one of the virtual window name and the virtual window class identifier.

17. (Original) The apparatus of claim 16 wherein the mapping table is associated with the process.

18. (Original) The apparatus of claim 17 further comprising a second mapping table associated with a second process.

19. (Original) The apparatus of claim 15 further comprising a rules engine comprising a rule determining how the window name virtualization engine forms the one of the literal name for the window and the literal window class identifier for the window.

20. (Currently Amended) A method for virtualizing access to windows, the method comprising:
intercepting a request, from a requestor executing within the context of an isolation scope, to paint a title bar for a window, the title bar including the window name, the request including a window handle, the isolation scope provided by an isolation environment comprising a user isolation layer and an application isolation layer,

determining that the window handle is associated with the virtual window name;
painting the title bar of the window using the virtual window name; and
indicating to the requestor that the title bar has been painted.

21. (Currently Amended) A method for virtualizing access to windows, the method comprising:
receiving a request, relating to a window class, from a process executing within the context of a user isolation scope account, the request including a virtual window class identifier, and the user isolation scope provided by an isolation environment comprising a user isolation layer and an application isolation layer;

determining a literal window class identifier using a scope-specific identifier associated with a particular isolation scope;

issuing to the an operating system a request including the determined literal window class identifier; and

associating a window handle with the determined literal window class identifier.

22. (Currently Amended) The method of claim 21 wherein receiving a request further comprises intercepting a request relating to a window class from a process executing in the context of a user isolation scope account, the request including a virtual window class identifier.

23. (Currently Amended) The method of claim 21 wherein receiving a request further comprises receiving a request to find a window from a process executing in the context of a user isolation scope account, the request including a virtual window class identifier.

24. (Currently Amended) The method of claim 21 wherein receiving a request further comprises receiving a request to create a window from a process executing in the context of a user isolation scope account, the request including a virtual window class identifier.

25. (Previously Presented) The method of claim 21 wherein determining further comprises:

determining a rule associated with the virtual window class identifier included in the request; and

determining a literal window class identifier responsive to the determined rule.

26. (Previously Presented) The method of claim 21 wherein determining further comprises determining a literal window class name using a scope-specific identifier associated with an application isolation scope with which the process making the request is associated.

27. (Previously Presented) The method of claim 21 wherein associating a window handle further comprises storing the virtual window class identifier in a mapping table associated with a window handle.

28. (Previously Presented) The method of claim 21 further comprising receiving from the operating system a response to the issued request.

29. (Previously Presented) The method of claim 28 further comprising replacing the determined literal window class identifier in the response with a virtual window class identifier.